BKG Regional IGS Data Center Report 2002

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1 Introduction

The Federal Agency for Cartography and Geodesy (BKG) operates the Regional IGS Data Center for Europe since the beginning of the IGS Test Campaign in June 21, 1992. GPS tracking data from permanent GPS sites in Europe are obtained from Operational Data Centers (ODC's), Local Data Centers (LDC's), or directly from the stations. Also tracking data from stations outside of Europe are transferred to BKG, if a European institution operates these stations. The received data are uploaded to the Global Data Centers (GDCs), and are also made available to other users. BKG holds the data files from different projects in separate directories in order to handle the project related restrictions, e.g., the project specific user access. A project independent access is additionally realized through a list of all stations and links to the corresponding subdirectories. The operability of the data center is continuously adapted to meet newest requirements. In 2002 the data center was further development through the cooperation with the IGS Data Center Working Group, the preparation of the participation in GSAC, and the design of a new server concept.

2 Activities in 2002

In 2002 about 10 new GPS/GLONASS stations has been established in Germany by BKG and provide observations in a real-time data stream. These data streams are compiled to hourly files and copied to the data center. It increases the number of GPS/GLONASS stations in Germany significantly. The wholesaler software kid of the GPS Seamless Archive Center (GSAC) as provided by SOPAC has been installed at BKG for test purposes. A first small data holding catalogue was generated and confirms the functionality of the software installation. It is planned to run the complete wholesaler software within the new server concept (see section 3). BKG is furthermore represented in the newly established IGS Data Center Working Group.

3 New Server Concept

BKG decided in 2002 to develop and realize a new server concept for the data center. The objective is to make the access to the data center more comfortable for the users as well as for the administrator. It should be possible to get all information by usage of the http protocol. Also the administration of the data center should easily be possible by the generation of helpful status overviews and the execution of predefined repair batches. For that purpose the LAMP (Linux operation system, Apache web server, MySQL data bank and PHP script language) server concept will be used. The new server will not change the disk file structure and thus batch programs for ftp downloads may still be used. LAMP enables to show dynamic web pages for the current content of the data base. A test server has been installed in 2002 and has demonstrated the functionality of the concept (http://igs2.ifag.de). It is planned to put the new server in operation before the end of 2003. Figure 1 shows the new designed 'check-import-like' statistic. It shows up with sensitive fields for the station code, color pad and day of year to request detailed information. Figure 2 shows the 'station' and 'receiver' menus, which are dynamically generated from the SQL data base.

4 Outlook

If the new server concept will be realized, BKG expects to run a very robust, flexible and comfortable data center. The participation in GSAC will be a proper global extension to the European data. It is currently not possible to correctly value the importance of real time data streams for the future. Anyhow, BKG will be prepared to introduce real time applications into the data center.

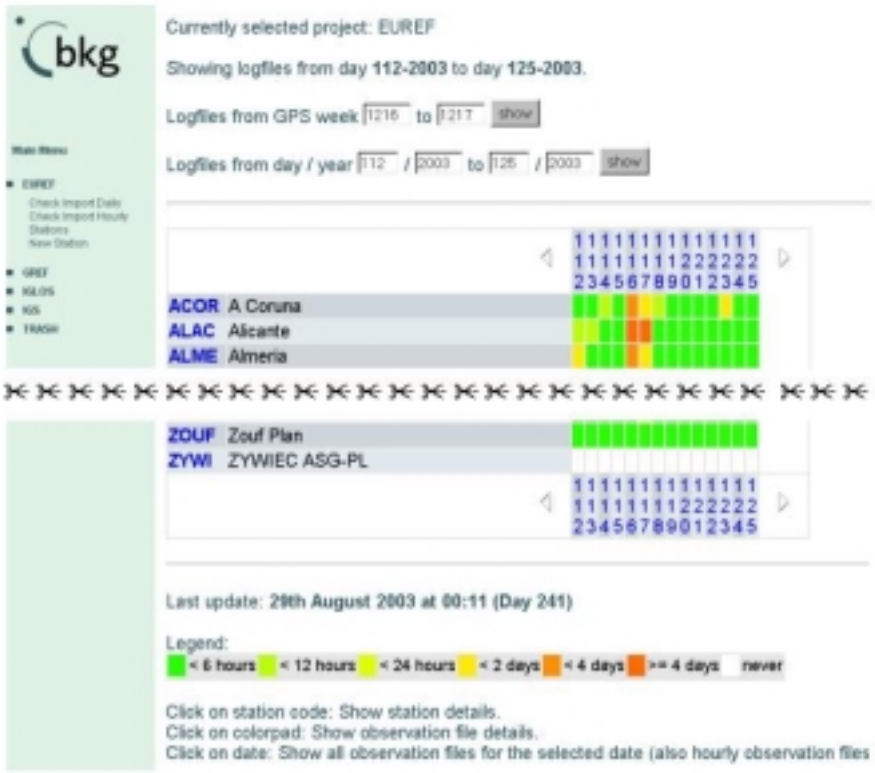

Figure 1: New ‘check-import’ statistic

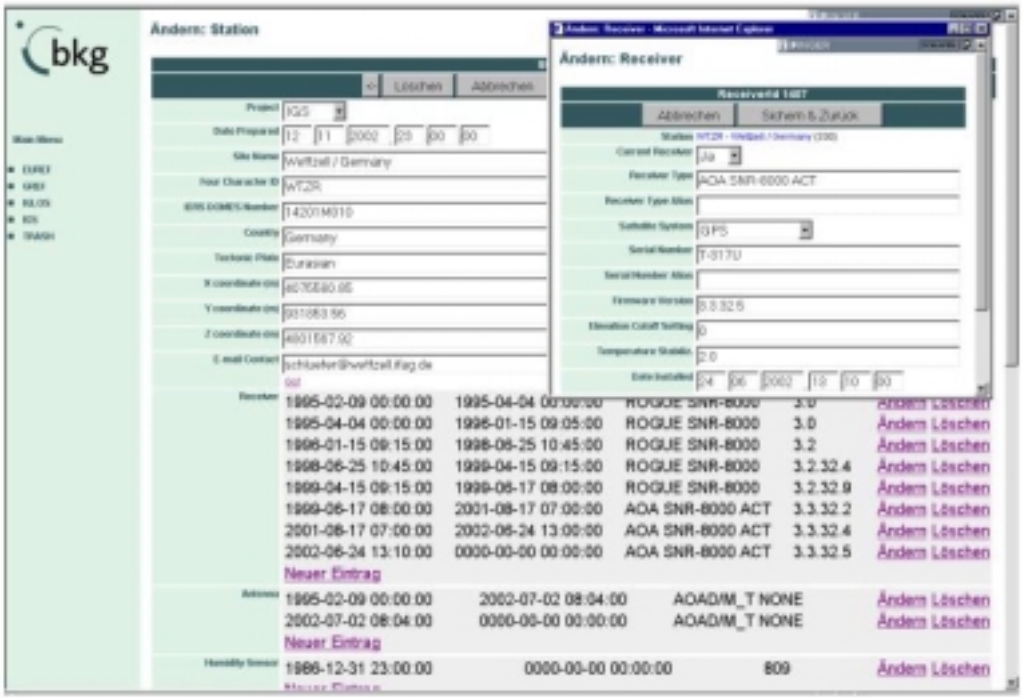

Figure 2: Selected ‘station’ and ‘receiver’ menu